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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,207	04/16/2004	Jerry H.C. Lee	25341A	1155
22889	7590	12/08/2006	EXAMINER	
OWENS CORNING 2790 COLUMBUS ROAD GRANVILLE, OH 43023			MATZEK, MATTHEW D	
			ART UNIT	PAPER NUMBER

1771

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/826,207	<b>Applicant(s)</b> LEE ET AL.	
	<b>Examiner</b> Matthew D. Matzek	<b>Art Unit</b> 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 9/28/2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-15 and 17-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-15 and 17-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/28/2006 has been entered. Claims 1-3, 5-15 and 17-23 are currently active.

***Response to Amendment***

2. The declaration under 37 CFR 1.132 filed 9/28/2006 is insufficient to overcome the rejection of claims 1-3, 5-15 and 17-23 based upon 35 U.S.C. 103 (a) in view of Miller et al. (US 6,228,785) in view of Marzocchi et al. (US 4,265,563) and Miller et al. in view (US 6,228,785) Marzocchi et al. (US 4,265,563) and Williams et al. (US 4,210,459), respectively, as set forth in the last Office action because: it fails to successfully distinguish the instantly claimed invention over that of the prior art or persuasively argue the withdrawal of the applied prior art rejections.

3. In the declaration, Applicant argues that one skilled in the art would not categorize a paving material as a building material as they are from different fields of endeavor. The Miller reference teaches a roofing material comprising a substrate coated with asphalt that is used in the building of a structure. Marzocchi teaches the creation of an asphalt material comprising glass fibers that provides an improved the interface between the fibers and the matrix (col. 9, lines 35-43). As set forth in the prior art section of Marzocchi it is well known that glass fibers have been used extensively in the reinforcement of resins, rubbers and asphalts (col. 2, lines 12-15) in the creation of both roof coverings and road foundations (col. 3, lines 3-41). Therefore, one of

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ordinary skill in the art would have been motivated to look to Marzocchi to improve the adhesion between the glass fiber and asphalt matrix phases as they are used in the inventions of Miller and Marzocchi are from the same field of endeavor, asphalt construction materials.

4. Applicant argues that the differences in structure and function of the claimed invention and a road are significant, so much so that one cannot perform the relevant tests on a the materials of Marzocchi. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Miller invention has been relied upon for its structure as a roofing material which is capable of having the relevant tests performed on it. The Marzocchi reference has been relied upon as a teaching as to how the interfacial adhesion between the asphalt matrix and glass fiber may be improved. Asphalt matrix and glass fiber is present in both the Miller and Marzocchi inventions.

5. Applicant argues that fibers are undesirably in paving and Marzocchi teaches away from doing so. Applicant is directed to the rejection of this and previous actions in which Miller has been relied upon for the structure of a roofing material, not a paving material. Marzocchi has been relied upon to teach the improved adhesion between the glass fiber and asphalt matrix phase, not the structure of a roofing material.

6. Applicant argues that one of ordinary skill in the art would not categorize a roofing shingle as a composite fiberglass in an organic matrix. The roofing shingle of Miller is made with asphalt, which is predominately made of bitumen, an organic material. Therefore, the glass fibers of Miller are in fact coated with an organic matrix of bituminous material.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, 5-8 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,228,785) in view of Marzocchi et al. (US 4,265,563).

a. Miller et al. teach an asphalt-based roofing material comprising a substrate coated with asphalt (Abstract). The roofing material comprises a glass fiber substrate coated with asphalt and a surface layer of granules embedded in the asphalt coating (col. 1, lines 13-20). Miller et al. is silent as to use of a silane-sizing agent for the glass fibers in the asphalt.

b. Marzocchi et al. teach that glass fibers may be used as reinforcement in resins, rubbers, and asphalt (organic material) for use in roads, driveways, bridges, walks and roofs (col. 2, lines 10-20). The glass fibers may be treated with a silane coupling (sizing) composition along with sulfur leaving secondary or primary as well as elemental sulfur dispersed on the surface of the glass fibers (col. 9, lines 35-43). When added to a resin system (asphalt, tar, etc.) the glass fibers become directly bonded to the resin phase to improve strength and impermeability of the properties of the matrix (col. 9, lines 43-50). The sulfur content of the silane coating may be from 0.05 to 40% with a preference from 0.1 to 7% (col. 9, lines 54-59). Overlying the substrate layer 1 (fiberglass) is a wear course 2 comprising an aggregate and asphalt mixture (col. 4, lines 3-5). The asphalt

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aggregate may comprise clays, gravel, glass flake or calcium carbonate (col. 4, lines 53-69). In one embodiment an asphaltic, glass flake layer is added on top of the substrate (fiber/asphalt) layer (col. 5, lines 55-63).

c. Since Miller et al. and Marzocchi et al. are from the same field of endeavor (i.e. asphalt covered fiber glass building materials), the purpose disclosed by Marzocchi et al. would have been recognized in the pertinent art of Miller et al.

d. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the glass fiber mat of the composite of Miller et al. with the silane sizing agent with the motivation of improving the adhesion between the fiber glass and asphalt phases.

e. Although Miller et al. nor Marzocchi et al. explicitly teach the claimed feature of forming cross-links between the sulfur groups and the organic material, the claimed tear strength or the claimed tensile strength, it is reasonable to presume that said properties are inherent to Marzocchi et al. Support for said presumption is found in the use of like materials (i.e. glass fibers sized with a sulfurous silane composition and coated with an organic material). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties of claims 1, 6 and 22 would obviously have been present one the Marzocchi et al. product is provided. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80.

4. Claims 2, 9-15, 17-21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,228,785) in view of Marzocchi et al. (US 4,265,563) as applied to claim

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1 above, and further in view of Williams et al. (US 4,210,459). While Marzocchi et al. teach silane coupling agents for the glass fibers it is silent as to use of a sulfide silane.

- a. Williams et al. teach the use of a polysulfide silane coupling (sizing) agent for glass fibers in rubber composites (Abstract). The coupling agent may also comprise vinyl groups, yielding a vinyl silane (col. 4, lines 13-40). It is generally preferred to size the fibers prior to their incorporation into the composite (col. 14, lines 48-60). The polysulfide organosilicon coupling agent may also be added to the rubber matrix and the sulfur concentration may be from about 0.5 to 4 weight percent of said matrix (col. 13, lines 47-52 and col. 14, lines 24-28).
- b. Since Miller et al. and Williams et al. and from the same field of endeavor, (i.e. fiber glass in organic matrices), the purpose disclosed by Williams et al. would have been recognized in the pertinent art of Miller et al. and Marzocchi et al.
- c. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the sulfide silane coupling agent of Williams et al. motivated by the desire of simplifying the coating of the glass fibers to one chemical treatment and to improve the strength of the resin phase with the addition of the polysulfide silane.
- d. Although Miller et al. nor Williams et al. explicitly teach the claimed feature of forming cross-links between the between the sulfur groups and the organic material, double-bonds, the claimed tear strength or the claimed tensile strength, it is reasonable to presume that said properties are inherent to Williams et al. Support for said presumption is found in the use of like materials (i.e. glass fibers sized with a sulfurous silane

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composition and coated with an organic material). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties of claims 9, 18 and 23 would obviously have been present one the Williams et al. product is provided. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80.

e. Claim 10 is rejected as the polysulfide silane disclosed by Williams et al. possesses sulfur and vinyl groups (col. 4, lines 18-34).

f. Claim 14 is rejected as the combination of the instantly applied art yields an article that is compositionally and structurally the same as that of Applicant.

g. Claims 19 and 20 are rejected as the amount of sulfur instantly applied meets the limitations of claims 19 and 20 and provides the bonding between the glass fibers and the asphaltic matrix (col. 14, lines 24-34).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is (571) 272-2423. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

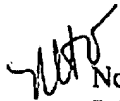


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Norca L. Torres-Velazquez  
Primary Examiner  
Art Unit 1771

12/6/06